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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,643	03/23/2004	Jeffrey J. Schroeder	35691US1	2569
116	7590	01/27/2005	EXAMINER	
PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			VO, HAI	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/806,643	SCHROEDER ET AL.	
	Examiner	Art Unit	
	Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18, 21-25 and 27-36 is/are rejected.
- 7) ☒ Claim(s) 19, 20 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0412, 0916</u> . | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 32 recites the limitation "the first and second metallic outer layers" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 4, 7, and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 1949657B. DE'657 teaches a building element for use in noise attenuating walls comprising a viscoelastic foam sandwiched between two metal plates wherein the metal plate has a maximum thickness of 3 mm. DE'657 does not specifically disclose the foam being effective to withstand operative heat shield temperature of at least 1000°F and to dampen acoustic tonal frequencies

Art Unit: 1771

below 200 Hz. However, the claims are completely silent as to what is made of the foam layer and the insulation structure of DE'657 meets all the structural limitations as required by the claims. The foam is made from a viscoelastic foam and having a thickness at least 10 mm meeting the range set out in the claims. Therefore, it is not seen that the foam of DE'657 would have performed differently than that of the present invention in terms of heat shield and vibration absorption. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in Ex parte Slob, 157 USPQ 172). It is the examiner's position that DE'657 anticipates the claimed subject matter.

5. Claims 1-4, 14, 24, 27, 28, and 32-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Seibert (US 5,849,407). Seibert teaches an insulated structure comprising in order: an outer layer of sheet metal, a melamine foam layer, a sheet metal layer and a core layer of a hard foam material, coated on opposite sides with a phenolic resin. Seibert teaches a sheet metal made from aluminum and having a thickness of about 0.5 mm or 0.02 inch (column 2, lines 55-65). There is no suggestion in the Seibert invention the use of adhesive to bond the metal layer to the foam layer. Seibert does not specifically disclose the foam being effective to withstand operative heat shield temperature of at least 1000°F and to dampen acoustic tonal frequencies below 200 Hz. However, the claims are completely silent as to what is made of the foam layer and the insulation structure of Seibert meets all the structural limitations as required by

the claims. Therefore, it is not seen that the foam of Seibert would have performed differently than that of the present invention in terms of heat shield and vibration absorption. The same token is applied to the area density of the insulation structure. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in *Ex parte Slob*, 157 USPQ 172). Therefore, it is the examiner's position that the area density would be inherently present. Further, Seibert does not specifically disclose the insulated structure being mounted to the body panel of an automobile. However, it has been held that a recitation with respect to the manner in which a claimed heat shield is intended to be employed does not differentiate the claimed heat shield from a prior art insulation structure satisfying the claimed structural limitations. ***Ex parte Masham***, 2 USPQ2d 1647 (1987). It's the examiner's position that Seibert anticipates the claimed subject matter.

6. Claims 24, 27-31, 34, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Holtrop et al (US 4,557,970). Holtrop discloses a laminate structure comprising a aluminum foil layer 21, a first foam layer 12, a second foam layer 13 dissimilar to the first foam layer adhered to the first foam layer 12 opposite the aluminum foil layer 21 (column 4, lines 17-18, figure 1). The first foam layer made from polyurethane foam has a thickness of 3 to 6.5 mm or 0.12 to 0.26 inch while the second foam layer has a thickness from 1.5 to 25 mm or 0.06 to 1 inch (column 3, lines 10-40). The laminate structure has improved acoustical absorption. Likewise, the laminate structure is internally damped

against vibration. Holtrop does not specifically disclose the foam being effective to withstand operative heat shield temperature of at least 1000°F and to dampen acoustic tonal frequencies below 200 Hz. However, since the foam of Holtrop is made from polyurethane foam and has a thickness within the claimed range.

Therefore, it is not seen that the foam of Holtrop would have performed differently than that of the present invention in terms of heat shield and vibration absorption. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. The same token is applied to the area density of the insulation structure. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in Ex parte Slob, 157 USPQ 172). Therefore, it is the examiner's position that the area density would be inherently present. Further, Holtrop does not specifically disclose the insulated structure being mounted to the body panel of an automobile. However, it has been held that a recitation with respect to the manner in which a claimed heat shield is intended to be employed does not differentiate the claimed heat shield from a prior art insulation structure satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). It's the examiner's position that Holtrop anticipates the claimed subject matter.

7. Claims 24, 27-30, 34, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Lohmar et al (US 4,839,397). Lohmar discloses a laminate structure comprising a metal substrate 1, a polyurethane soft foam layer 4, a

heavy layer 6, a decoupler 7 and a carpet 8 (figures 5 and 6). Lohmar disclose the heavy layer can be a foam backing (column 2, lines 48-50). The laminate is suitable for sound insulation. The laminate is fastened to the automobile body panel. The laminate structure has improved acoustical absorption. Likewise, the laminate structure is internally damped against vibration. Lohmar does not specifically disclose the foam being effective to withstand operative heat shield temperature of at least 1000°F and to dampen acoustic tonal frequencies below 200 Hz. However, since the foam of Lohmar is made from polyurethane foam and has good vibration damping properties. Therefore, it is not seen that the foam of Holtrop would have performed differently than that of the present invention in terms of heat shield and vibration absorption. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. The same token is applied to the area density of the insulation structure. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in Ex parte Slob, 157 USPQ 172). Therefore, it is the examiner's position that the area density would be inherently present. It's the examiner's position that Lohmar anticipates the claimed subject matter.

8. Claims 1-6, and 8-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Davis (US 6,579,170). Davis teaches an air duct system comprising in order: an inner shell and an outer shell of aluminum, and a polyurethane foam layer

disposed between the inner shell and the outer shell (column 3, lines 44-45, column 4, lines 4-9). Davis teaches the inner shell and outer shell, each having a thickness of 1/64 to 1 inch (column 3, lines 60-65) within the range set out in the claims. The foam has a thickness within the claimed range (example 2). The foam is deformable to accommodate a particular shape and contour to which the air duct system is to be bent (figures 3 and 6). Davis does not specifically disclose the foam being effective to withstand operative heat shield temperature of at least 1000°F and to dampen acoustic tonal frequencies below 200 Hz. However, since the foam of Davis is made from polyurethane foam and has a thickness within the claimed range. Therefore, it is not seen that the foam of Davis would have performed differently than that of the present invention in terms of heat shield and vibration absorption. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete. It's the examiner's position that Davis anticipates the claimed subject matter.

9. Claims 1-4, and 8-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Spears et al (US 6,455,148). Spears teaches a composite panel comprising a foamed plastic core and two metallic skin layers bonded to the foam core (figure 1). The skin layer has a thickness from 0.2 to 0.5 mm within the claimed range. The foam core has a thickness from 1.5 to 5 mm within the claimed range.



Spears does not specifically disclose the foam being flexible, and effective to withstand operative heat shield temperature of at least 1000°F and to dampen acoustic tonal frequencies below 200 Hz. However, the claims are completely silent as to what is made of the foam layer and the composite panel of Spears meets all the structural limitations as required by the claims. Therefore, it is not seen that the foam of Spears would have performed differently than that of the present invention in terms of flexibility, heat shield and vibration absorption. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in Ex parte Slob, 157 USPQ 172). Therefore, it is the examiner's position that Spears anticipates the claimed subject matter.

10. Claims 1-6, 8-12, and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lynn et al (US 6,093,481). Lynn teaches an insulation board comprising in order: a film layer 11, a fibrous layer 22, an aluminum foil 23, a polyurethane foam core 13, an aluminum foil 24 and a film layer 12 (figure 3). Lynn teaches the aluminum foil having a thickness from 0.3 mil to 5 mils (column 5, lines 20-25) within the range set out in the claims. The foam has a thickness from ½ to 1 inch within the claimed range (column 5, lines 39-40). Lynn discloses the individual layers can be bonded to each other without adhesive agents (column 4, lines 20-23). The thin mat 36 of glass mat is embedded with the foam core (column 7, lines 65-67). Lynn does not specifically disclose the foam being flexible and effective to withstand operative heat shield temperature

of at least 1000°F and to dampen acoustic tonal frequencies below 200 Hz.

However, since the foam of Lynn is made from polyurethane foam and has a thickness within the claimed range. Therefore, it is not seen that the foam of Lynn would have performed differently than that of the present invention in terms of heat shield and vibration absorption. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete. It's the examiner's position that Lynn anticipates the claimed subject matter.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holtrop et al (US 4,557,970) as applied to claim 24 above, further in view of Lynn et al (US 6,093,481). Holtrop does not specifically disclose the thickness of the aluminum facing sheet of the laminate structure. Lynn, however, teaches a laminate structure for use in sound insulating having a facing sheet of aluminum with a thickness from 0.3 mil to 5 mils (column 5, lines 20-25) within the range set out in the claims. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the facing sheet of

aluminum having a thickness instantly claimed because such a thickness is known and typical for the facing sheet for use in the acoustic insulation and Lynn provides necessary details to practice the invention of Holtrop.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn et al (US 6,093,481). Lynn does not specifically disclose the reinforcing web embedded with the foam core comprising polypropylene fibers. However, the use of polypropylene fibers in combination of glass fibers of the reinforcing web is known and obvious to one of skill in the art to lower the cost of the production while maintaining the strength of the laminate. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use polypropylene fibers in combination with the glass fibers of the reinforcing web motivated by the desire to lower the cost of the production while maintaining the strength of the laminate.

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn (US 6,093,481) as applied to claim 1 above, further in view of Hipchen et al (US 4,028,158). Lynn does not specifically disclose the reinforcing web being spaced substantially equidistant from the first and second aluminum layers and having a thickness from 2 to 2.5 mm. Hipchen, however, teaches a laminate wherein the reinforcing web is spaced substantially equidistant from the first and second aluminum layers and having a thickness from 0.01 to 0.05 inch (column 6, lines 15-20, figure 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the reinforcing web

being spaced substantially equidistant from the first and second aluminum layers and having a thickness from 0.01 to 0.05 inch motivated by the desire to obtain the laminate with higher structural strength.

15. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn et al as applied to claim 1 above, and further in view of Hasegawa et al (US 4,923,904). Lynn does not specifically disclose the foam layer being made from an expandable foaming composition as recited in the claims. However, Hasegawa discloses a polyurethane foam for use in heat insulating materials. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polyurethane foam as taught in the Hasegawa invention as the foam core motivated by the desire to provide the foam having good buckling performance property, which is important to the expectation of successfully practicing the invention of Lynn, and thus suggesting the modification.

***Allowable Subject Matter***

16. Claims 19, 20 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art discloses or suggests the heat shield wherein the foam layer absorber is a closed cell polyvinyl nitrile foam layer. Additionally, the inclusion of the absorber layer formed from fluffy fibers having a thickness of about ¼ to ½ inch renders the claims unobvious over the prior art. Lynn teaches an insulation board comprising

Art Unit: 1771

in order: a film layer 11, a fibrous layer 22, an aluminum foil 23, a polyurethane foam core 13, an aluminum foil 24 and a film layer 12 (figure 3). The fibrous layer 22 of the Lynn invention corresponds to Applicants' fluffy fiber absorber layer. Lynn teaches the fibrous layer having a thickness from 0.3 mil to 5 mils or 0.0003 to 0.005 inch (column 5, lines 20-25), which is about 50 times less than the lower limit of the range set out in the claim. One of skill in the art would not be motivated to increase the thickness of the facing sheet of Lynn to 0.25 inch as required by the claims from the impractical view of weight concern and cost increasing.

### ***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

Art Unit: 1771

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HV

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